PONY

سلسلة كتب الأستاذ

ICT

October Revision

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1st

Preparatory

First Term

October Revision ① Summary

Lesson 1 Green Technology

Definition:

» **Green Technology:** It's also known as sustainable technology or clean technology.

– It is based on technological tools that protect the environment and optimize the use of its resources.

Key Points:

» **Electric Vehicles in Egypt:**

– Aim: They reduce harmful emissions and fuel consumption.

– Operation: They use batteries and charging stations.

» **Fields of Green Technology:**

1. Renewable Energy:
   - **Solar Energy:** It generates electricity from sunlight via solar panels.
   - **Wind Power:** It generates electricity from wind via turbines.
   - **Hydropower:** It generates electricity from water movement via dams.
   - **Geothermal Energy:** It generates electricity from Earth's internal heat.
   - **Bioenergy:** It generates energy from organic materials like soybeans and corn.
2. Energy Consumption Rationalization:
   - **Green Building:** It uses eco-friendly, energy-efficient materials, improved ventilation, and insulation.
   - **Energy-efficient Appliances:** High-efficiency computers and devices
   - **Smart Transportation:** Using electric vehicles to enhance energy efficiency.

3 Waste Recycling:

- **Material Recycling:** Paper, plastic, and metals into new products
- **Transforming Organic Waste:** Into compost to enhance soil fertility
- **Waste Reduction:** By reusing and repairing products

4 Water Treatment:

- **Purification:** Making contaminated to be reused or drunk
- **Efficient Irrigation:** Smart systems like drip irrigation
- **Water-saving Devices:** Repairing water leaks

Benefits of Green Technology:

1 Environmental Preservation:

- It reduces carbon dioxide emissions and global warming.
- It promotes alternatives like electric cars to lower pollution.

2 Resource Conservation:

- **Water and Electricity Optimization:**
  - **Body Sensors:** They control water flow and optimize electricity usage.
  - **Solar Energy:** Photovoltaic panels convert solar energy to electricity.

Sensor Usages

Temperature Regulation | Lighting Control | Fire Smoke Detection

Lesson 2 Digital Transformation and Its Importance in Our Daily Lives

Definition:

Digital Transformation: It is the combination of digital technology into all business aspects to enhance work-flow efficiency, lower costs, and innovate products and services.

Key Points:

Importance of Digital Transformation:

1. Enhancing efficiency and productivity
2. Quality enhancement
3. Enhancing sales and revenue
4. Enhancing innovation and creativity
5. Sustaining competitiveness
6. Enhancing decision-making
7. Minimizing energy and resource consumption
8. Creating new employment opportunities

Digital Transformation: It is a national project that links all government agencies through an information environment, and citizens can obtain all their services through the Internet.

Tools Used in Digital Transformation:

- Work-flow Management Tools: They enhance the efficiency of repetitive tasks (e.g., "Digital Egypt" platform).
- Electronic Payment Methods: They are convenient, fast, and secure payment options (e.g., electronic payment cards, InstaPay application).
- Collaboration and Communication Tools: They enable face-to-face communication with others (e.g., video conferencing apps like Zoom & Google Meet).
- E-learning resources
- AI and machine learning
- Cloud computing
- Cybersecurity solutions

- **Note:** An email address is required to access any digital services or products.

» Green technology and digital transformation are closely related and contribute to achieving common goals, such as:

1. Enhancing resource utilization efficiency
2. Reducing harmful emissions
3. Supporting sustainability

Examples of Integration Between Green Technology and Digital Transformation Applications

- Smart Energy Grids
- Precision Farming
- Smart Buildings
- Smart Transportation
- Smart Cities

Benefits of Integration Between Green Technology and Digital Transformation Applications

- Speeding up the process of the digital transformation
- Enhancing the efficiency of green technology
- Creating new employment opportunities
- Improving the quality of life

Lesson 3 Operating Systems

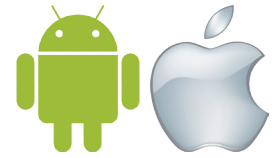
Definition:

» **Operating System (OS):** It is an interface between the user, hardware, and software. It manages hardware components, runs software, and helps users accomplish tasks smoothly.

Key Points:

1. **Personal Computers (PCs):**
   - Operating Systems: Microsoft Windows, macOS, Linux distributions

❷ Mobile Devices:



– Operating Systems: Apple's iOS, Google's Android, alternative mobile OS

❸ Servers:

– Operating Systems: Linux distributions, Microsoft Windows Server, specialized server OS

❹ Gaming Consoles:

– Operating Systems: Exclusive OS for PlayStation, Xbox, Nintendo Switch

❺ Smart TVs:

– Operating Systems: Android TV, Tizen, webOS, others

❻ Wearable Devices:

– Operating Systems: Tailored OS for smart-watches, fitness trackers

❼ Network Devices:

– Operating Systems: They are used in routers and switches for network management and security.

❽ Automotive Systems:

– Operating Systems: They are used in modern cars and vehicles to control various functions, such as infotainment and navigation.

❾ Embedded Systems:

– Operating Systems: They are used in Automated Teller Machines (ATM) and Point of Sale Terminals.

❿ Industrial Control Systems (ICS):

– Functions: They control and monitor industrial processes, increase productivity, improve product quality, and ensure health and operational safety.

– Applications: They are used in sectors like energy, transportation, food production, petrochemicals, electronics, and medical industries.

OS Startup Screen (Desktop):

- Icons: They are symbols representing software and system settings, arranged over a background image or color.
- Bars: They contain icons for installed software and system settings (e.g., date, time, sound, and network).
- Note: The startup screen varies for different operating systems and versions.

Lesson 4 Installation and Removal of Software and Digital Peripherals

1 From a CD or DVD:

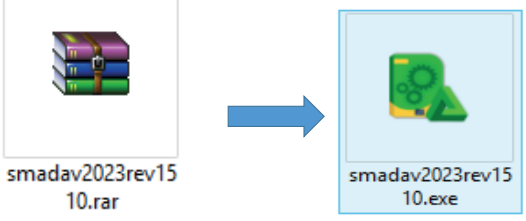
- Insert the disc into the drive.
- Click Run SETUP.EXE.
- AutoPlay dialog box appears.
- Follow instructions.

2 From an Internet-Downloaded File:

- Access the downloaded file via "This PC" icon.
- Double-click the file to start the installer.
- If compressed, unzip before accessing SETUP.EXE.

3 From a Compressed File:

- Extract the compressed files.
- Double-click the installation file.
- Follow the software's installation instructions.



Removing or Uninstalling Software:

- Uninstalling program: Delete all program files from your device.
- Removing unused programs saves disk space and improves device performance.

1. Program has its own Uninstallation Command.

2. Using Control Panel:

(A) Access Control Panel. (B) Click "Uninstall a program".

(C) Select the program and click Uninstall.

Setting Up and Configuring Hardware:

– Plug and Play Device Installation

1. OS Includes the Driver: OS Installs the driver automatically.
2. OS Does Not Include a Driver: OS runs a wizard program to find the driver.

Installing a Printer:

1. Local Printer (Plug and Play): installed automatically.
2. Non–Plug and Play Printer:

Control Panel ⇨ Hardware and Sound ⇨ Devices and Printers. ⇨ Click "Add a printer".

⇨ Select "Add a local printer or network printer.

⇨ Choose the correct port (**LPT1** for older, **USB** for modern printers).

– If you don't find the driver you need: Click Have Disk.

– Click Windows Update to update the list of printers.

– Give a name to the printer.

– Print a test page to ensure proper installation.

October Revision 2 Questions

1 Choose the correct answer:

1. Green technology is also called ..... technology.
   a. industrial b. clean c. sustainable d. both b and c
2. The main goal of using electric vehicles is to ..... .
   a. increase pollution b. increase cost
   c. reduce harmful emissions d. none of them
3. ..... convert sunlight into electricity.
   a. Wind turbines b. Dams c. Batteries d. Solar panels
4. Smart buildings use ..... materials.
   a. metal b. nuclear c. eco-friendly d. harmful
5. Geothermal energy generates electricity by using ..... .
   a. organic materials like soybeans
   b. the Earth's internal heat
   c. wind movement d. water movement in dams
6. The recycling of organic waste produces ..... .
   a. glass b. compost c. plastic d. oil
7. Water treatment includes ..... the polluted water.
   a. purifying b. ignoring c. wasting d. boiling
8. Sensors help to ..... water and electricity usage.
   a. increase b. rationalize c. stop d. waste
9. If a program downloaded from the Internet is compressed, what must be done first?
   a. Delete it directly. b. Change its name.
   c. Unzip/Extract it. d. Run the SETUP.EXE file directly.
10. Green technology helps in ..... .
    a. increasing pollution b. conserving resources
    c. wasting energy d. destroying nature

11 Digital transformation integrates ..... into all fields of work.
- a. paperwork
- b. typewriters
- c. digital technology
- d. machinery

12 The Digital Egypt platform provides ..... .
- a. games
- b. photos
- c. music
- d. government services

13 The main goal of digital transformation is to ..... .
- a. increase cost
- b. slow work
- c. enhance work-flow efficiency
- d. cause errors

14 InstaPay is licensed by the ..... .
- a. Central Bank of Egypt
- b. National Bank
- c. Ministry of Education
- d. CIB

15 Which application is mentioned as an example of Electronic Payment Cards?
- a. Zoom
- b. Google Meet
- c. "Meeza" card
- d. InstaPay

16 Zoom and Google Meet are ..... tools.
- a. cybersecurity
- b. social media
- c. collaboration
- d. antivirus

17 The main reason to uninstall a program you stopped using is to ..... .
- a. prevent viruses
- b. save the disk storage space
- c. update the operating system
- d. change the desktop background

18 An operating system is an interface between the ..... .
- a. user and the Internet
- b. user, hardware, and software
- c. screen and the power
- d. CPU and the fan

19 Windows, macOS, and Linux are operating systems for ..... .
- a. personal computers
- b. TVs
- c. phones
- d. routers

20 iOS and Android operate on ..... .
- a. servers
- b. TVs
- c. mobile devices
- d. routers

21 Which one of these is an operating system used by Smart TVs?

a. iOS
b. Tizen
c. macOS
d. Windows Server

22 ATM and POS terminals are examples of ..... systems.

a. gaming
b. embedded
c. industrial
d. wearable

23 Industrial Control Systems (ICS) are mainly used in ..... .

a. homes
b. industrial facilities
c. schools
d. shops

24 The Control Panel option used to remove a program is ..... .

a. Add Device
b. Change Password
c. Uninstall a program
d. Save File

25 Uninstalling a program helps to ..... .

a. waste memory
b. increase errors
c. free disk space
d. delete drivers

26 When installing a Plug and Play device like a new printer, the operating system ..... .

a. asks for a password
b. disconnects it automatically
c. searches for the appropriate drivers
d. deletes all other programs

27 If the OS cannot find a driver, it runs a/an ..... .

a. antivirus
b. Control Panel
c. installation wizard
d. none of them

28 The correct port for old printers is ..... .

a. USB
b. LPT1
c. HDMI
d. VGA

29 After printer installation, you can print a ..... to check it works.

a. letter
b. photo
c. test page
d. report

2 Put (✓) or (✗):

1 Electric cars have charging stations that connect them to power sources. ( )

2 Green buildings improve ventilation and insulation to reduce electricity use. ( )

3 Green technology is sometimes called sustainable technology or clean technology. ( )

4 Drip irrigation is one of the smart systems used to save water. ( )

5 Green technology tools preserve natural resources instead of harming them. ( )

6 Increasing fuel-powered vehicles helps protect the environment. ( )

7 The use of sensors can help regulate temperatures and detect smoke. ( )

8 Green technology leads to an increase in harmful gas emissions. ( )

9 The application of green technology helps reduce the impact of climate change. ( )

10 The Digital Egypt Platform is a governmental digital platform that exclusively offers services to businesses, not citizens. ( )

11 InstaPay is a mobile application licensed and sanctioned by the Central Bank of Egypt. ( )

12 Digital transformation helps in reducing errors and saving time. ( )

13 E-learning resources and cloud computing are examples of digital transformation tools. ( )

14 AI and machine learning are unrelated to digital transformation. ( )

15 Collaboration tools allow face-to-face communication through video conference. ( )

16 Access to digital services requires users to have an email address. ( )

17 The integration of digital and green technologies promotes sustainability and innovation. ( )

18 Smart transportation systems help improve energy efficiency in vehicles. ( )

19 Precision farming uses traditional tools instead of digital ones. ( )

20 A key function of the operating system is to provide an interface between the user, hardware, and software. ( )

21 Wearable devices such as smartwatches operate without any software. ( )

22 Gaming consoles contain operating systems customized for multimedia use. ( )

23 Routers and switches are examples of Network devices that use operating systems. ( )

24 The desktop background of an operating system can be an image or color chosen by the user. ( )

25 The startup screen is identical across all operating systems. ( )

26 Industrial Control Systems help monitor industrial processes and improve productivity. ( )

27 To uninstall a program, you can use the program's own Uninstall command or use the Control Panel. ( )

28 When installing software from the Internet, no setup file is required. ( )

29 If the downloaded program is compressed, you should unzip it first. ( )

30 The Plug and Play feature is not supported by modern operating systems. ( )

3 Complete the following sentences:

1 Green technology is usually called sustainable technology or ..... .

2 ..... uses electric vehicles to improve energy efficiency in the transportation sector.

3 The ..... is an interface between the user, the hardware, and software.

4 Managing the file system and ensuring security are two key functions of the .....

5 Smartphones and tablets rely on mobile operating systems. The most common being iOS by Apple and ..... by Google.

6 The operating system's startup screen (desktop) includes ....., which are arranged in a specific order, and a ....., which contains icons for the installed software.

7 Installing programs involves two sources: from a storage device or by ..... it from the Internet.

8 Uninstalling a program means that you ..... all the files of the program from your device.

9 If the downloaded file is ....., you need to unzip it first.

10 When installing a non-plug and play printer, you can access the setup settings through ....., then Hardware and Sound.

Answers

1

1 d	2 c	3 d	4 c
5 b	6 b	7 a	8 b
9 c	10 b	11 c	12 d
13 c	14 a	15 c	16 c
17 b	18 b	19 a	20 c
21 b	22 b	23 b	24 c
25 c	26 c	27 c	28 b
29 c			

2

1 ✓	2 ✓	3 ✓	4 ✓
5 ✓	6 ✗	7 ✓	8 ✗
9 ✓	10 ✗	11 ✓	12 ✓
13 ✓	14 ✗	15 ✓	16 ✓
17 ✓	18 ✓	19 ✗	20 ✓
21 ✗	22 ✓	23 ✓	24 ✓
25 ✗	26 ✓	27 ✓	28 ✗
29 ✓	30 ✗		

3

1 clean technology
2 Smart transportation
3 operating system
4 operating system
5 Android
6 icons – bars
7 downloading
8 delete
9 compressed
10 Control Panel